

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 13 JUL 1944

Date of writing Report 1st July 1944 When handed in at Local Office 11.7.44 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 15th MARCH Last Survey 30th JUNE 1944
Reg. Book. (Number of Visits 14)

37490 on the EMPIRE ROSEBERY Tons {Gross 2370 Net 1281

Built at GLASGOW By whom built BLYTHSWOOD S.B.C. Yard No. 77 When built 1944

Owners MINISTRY OF WAR TRANSPORT Port belonging to GLASGOW

Electrical Installation fitted by MESSRS SUNDERLAND FORGE & ENG. CO. LTD Contract No. 77 When fitted 1944

Is vessel fitted for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. - Sub.Sig. -

Have plans been submitted and approved YES System of Distribution Two wire Voltage of supply for Lighting 110

Heating - Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity - Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off YES Are turbine emergency governors fitted with a

trip switch as per Rule - Generators, are they compound wound YES, are they level compounded under working conditions YES,

if not compound wound state distance between generators - and from switchboard - Where more than one generator is fitted are they

arranged to run in parallel No, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole

Negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing - Have certificates of

test for machines under 100 kw. been supplied YES and the results found as per rule YES Are the lubricating arrangements and the construction

of the generators as per rule YES Position of Generators In engine room

is the ventilation in way of generators satisfactory YES are they clear of inflammable material YES, if situated

near unprotected combustible material state distance from same horizontally - and vertically - are the generators protected from mechanical

injury and damage from water, steam and oil YES, are the bedplates and frames earthed YES and the prime movers and generators in metallic

contact YES Switchboards, where are main switchboards placed In engine room near generators

are they in accessible positions, free from inflammable gases and acid fumes - are they protected from mechanical injury and damage from water, steam

and oil YES, if situated near unprotected combustible material state distance from same horizontally - and vertically - what insulation

material is used for the panels Sandalwood, if of synthetic insulating material is it an Approved Type YES, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule - Is the frame effectually earthed YES

Is the construction as per Rule YES, including accessibility of parts YES, absence of fuses on the back of the board YES, individual fuses

to pilot and earth lamps, voltmeters, etc. YES locking of screws and nuts YES, labelling of apparatus and fuses YES, fuses on the "dead"

side of switches YES Description of Main Switchgear for each generator and arrangement of equaliser switches

150 AMP. D.P. Knife pattern switch with cartridge type fuses.

and for each outgoing circuit 60 AMP. D.P. Knife pattern switches with cartridge type fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboard 3

ammeters 2 voltmeters - synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection - Earth Testing, state means provided Earth lamps.

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type YES, are all fuses labelled as

per Rule YES If circuit breakers are provided for the generators, at what overload current did they open when tested - are the reversed current

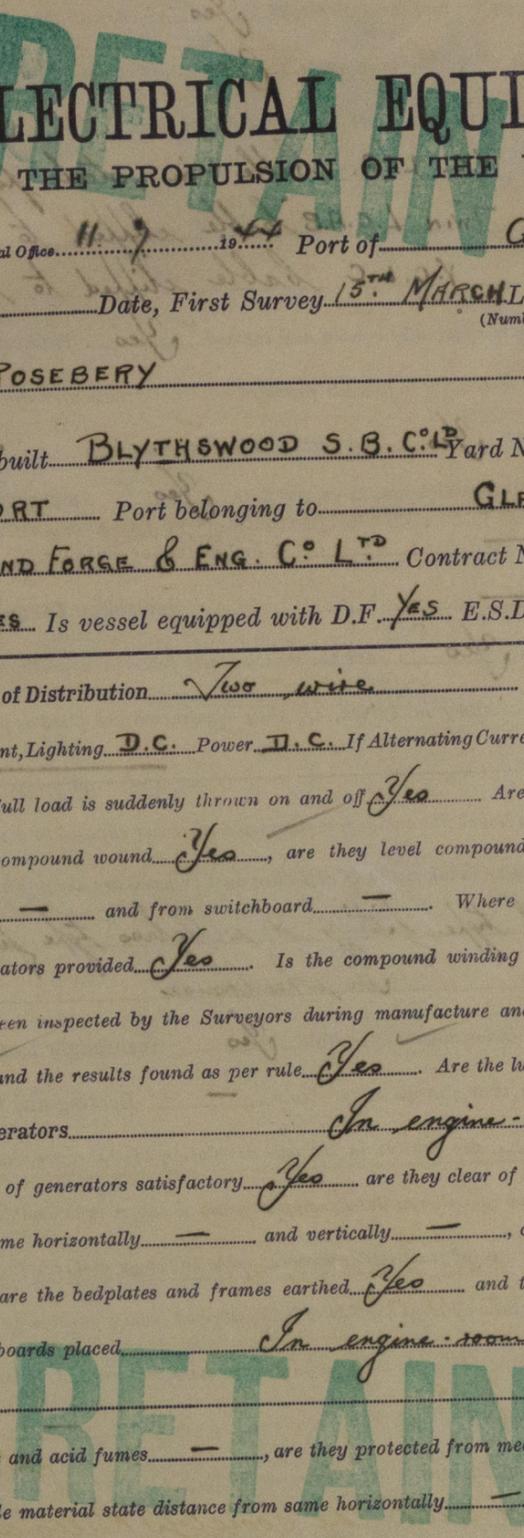
protection devices connected on the pole opposite to the equaliser connection - have they been tested under working conditions, and at what current

did they operate - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

Cables, are they insulated and protected as per the appropriate Tables of the Rules - if otherwise than as per Rule are they of an approved type W.E.

state maximum fall of pressure between bus bars and any point under maximum load 5.8 Volts are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends YES



with insulating compound — or waterproof insulating tape Yes. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage Yes, are cables laid under machines or floorplates —, if so, are they adequately protected —. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit —. State how the cables are supported and protected. **MAINS:** V.C. L.C.A. Cable in steel pipe.

MACHINERY SPACE: TWIN L.C.A.B. cable clipped to tray.

ACCOMMODATION: V.C. L.C. cable clipped to woodwork.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes. Refrigerated chambers, are the cables and fittings as per Rule —. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectually bushed Yes and with what material: Fibre. **Alternative Lighting**, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. **Emergency Supply**, state position — and method of control —.

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches Yes and fuses Yes. Are the switches and fuses in a position accessible only to the officers on watch Yes, is an automatic indicator fitted Yes. **Secondary Batteries**, are they constructed and fitted as per Rule —, are they adequately ventilated — what is the battery capacity in ampere hours —.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weather proof Yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present Yes, if so, how are they protected Flameproof type fitting or well/hasp type fitting installed in separate compartment. and where are the controlling switches fitted in wheelhouse, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. **Searchlight Lamps**, No. of —, whether fixed or portable —, are their fittings as per Rule —. **Heating and Cooking**, is the general construction as per Rule —, are the frames effectually earthed —, are heaters in the accommodation of the convection type —. **Motors**, are all motors constructed and installed as per Rule Yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil Yes, if situated near unprotected combustible material state minimum distance from same horizontally — and vertically —. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment —. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing —. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule —. **Control Gear and Resistances**, are they constructed and fitted as per Rule Yes. **Lightning Conductors**, where required are they fitted as per Rule —. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with Yes, are all fuses of the cartridge type Yes are they of an approved type Yes. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes. Are the cables lead covered as per Rule Yes. **Spare Gear**, if the vessel is for open sea service have spares been provided as per Rule Yes, are they suitably stored in dry situations Yes. **Insulation Tests**, has the insulation resistance of all circuits and apparatus been tested and found satisfactory Yes.

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|--------------|------------------------------------------------|----------------------|
| | | Kilowatts. | Volts. | Ampères. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 2 | 10 | 110 | 91 | 850 | STEAM ENGINE | — | |
| EMERGENCY | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | |

GENERATOR CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|---------------------------|------------|---------------------------|----------------------------------------------------------------|-----------------------------|-------|-----------------------------------------|-----------------|----------------|
| | | No. in Parallel Per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR | 10 | 1 | 19/052 | 91 | 104 | 70 | Y.C. | L.C. |
| " " EQUALISER | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | | | | | | | | |
| " " GENERATOR | | | | | | | | |

MAIN DISTRIBUTION CABLES.

| DESCRIPTION. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|--------------------------------------|---------------------------|----------------------------------------------------------------|-----------------------------|-------|-----------------------------------------|-----------------|----------------|
| | No. in Parallel Per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| AUX. SWITCHBOARDS AND SECTION BOARDS | | | | | | | |
| ENGINEERS QUARTERS SECTION BOARD | 1 | 7/064 | 54 | 75 | 20 | Y.C. | L.C.A. |

LIGHTING AND HEATING, ETC., CABLES.

| | | | | | | | |
|--------------------------------------------|---|--------|----|-----|-----|------|----------------------|
| WIRELESS + NAVIGATION | 1 | 19/083 | 47 | 191 | 500 | Y.C. | L.C.A. IN STEEL PIPE |
| NAVIGATION LIGHTS + WIRELESS (A.T. Supply) | 1 | 7/064 | 41 | 75 | 600 | Y.C. | L.C.A. IN STEEL PIPE |
| LIGHTING AND HEATING | | | | | | | |
| POOP DECK D.B. PORT | 1 | 7/064 | 23 | 75 | 70 | Y.C. | L.C.A.B. |
| POOP DECK D.B. STBD | 1 | 7/064 | 13 | 31 | 100 | W.E. | L.C. |
| ENGINE ROOM | 1 | 7/064 | 15 | 75 | 60 | Y.C. | L.C.A.B. |
| SHORE CONNECTION | 1 | 19/052 | 91 | 104 | 60 | Y.C. | L.C.A. |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | | | | | |
|----------------------------------------|-----|--------|---|-------|----|----|---------------|
| DOMESTIC REFRIGERATOR | 1 | 2 | 1 | 7/064 | 18 | 31 | 120 W.E. L.C. |

RETAIN

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

P. Pro The Sunderland Forge & Engineering Co. Ltd.

Electrical Engineers.

Date 29th June 1944

J. C. Shanks
Branch Manager.

COMPASSES.

Minimum distance between electric generators or motors and standard compass..... *Seventeen feet.*

Minimum distance between electric generators or motors and steering compass..... *Fifteen feet.*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Ampères *9* feet from standard compass *7* feet from steering compass.

A cable carrying *16* Ampères *led into* ~~feet from~~ standard compass *led into* ~~feet from~~ steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power..... *Yes*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted..... *Yes*

The maximum deviation due to electric currents was found to be *nil* degrees on *any* course in the case of the standard compass, and *nil* degrees on *any* course in the case of the steering compass.

BLYTHSWOOD SHIPBUILDING CO., LTD

Sydney D. Brown

Builder's Signature.

Date *3rd July 1944*

SECRETARY

Is this installation a duplicate of a previous case..... *No* If so, state name of vessel.....

Plans. Are approved plans forwarded herewith..... *No* If not, state date of approval..... *10/3/44*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith..... *Yes*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.).....

The electrical equipment of this vessel has been fitted on board under Special Survey and in accordance with the approved plans and the Secretary's letter dated 22nd June 1944. All the requirements of the M.O.W.T. Specification have been carried out. The installation tested under working conditions and found satisfactory. The materials and workmanship are good.

Noted
J.H.
18/7/44

27E
11-7-44

Total Capacity of Generators..... *80* Kilowatts.

| | | |
|------------------------------|-------------|--------------------------------|
| The amount of Fee ... | £ 17 : 10 : | When applied for, 19. 7. 44 |
| SPECIFICATION FEE | £ 4 : 7/6 | |
| Travelling Expenses (if any) | £ : : | When received,19..... |

J. M. Gardiner
Surveyor to Lloyd's Register of Shipping.

GLASGOW 11 JUL 1944

Committee's Minute

Assigned

